

AMENDMENTS TO THE SPECIFICATION

Please replace the first two paragraphs on page 12 of the specification (numbered 41 and 42, respectively) with the following amended paragraphs:

Figure 2 is a block diagram of a content engine sender such as the primary content engine sender 110 of Figure 1. The content engine sender 110 includes a controller 200, a memory 205, and a storage device 210, a network interface 280, and an interconnection mechanism 285. The interconnection mechanism 285 couples at least the controller 200, the memory 205, and the network interface 280, and may, in some embodiments, also couple the storage device 210 to the other elements. The storage device 210 stores the values of a multicast period 215 and a predetermined number of multicast passes 220. The storage device 210 further includes content data 225 to be distributed to the content engine receivers 120, 125, 130, 135. The content data 225 includes object identifiers and a count associated with each object. The multicast period 215 is the delay between each multicast pass after the first multicast message transmission. The multicast passes after the first transmission are not triggered until the content engine sender 110 receives a NACK 155 from one of the content engine receivers 120, 125, 130, 135. The multicast passes value 220 is the number of times that the sender 110 sends a file in the multicast message 145. Each file is sent only a predetermined number of times that is capped by the multicast passes value 220. In other words, the content engine sender 110 iterates through multicast passes on a per object basis. The multicast passes value is in place to prevent constant multicast transmission cycling caused by any lagging content engine receivers. The operation of the content engine receiver 110 will be described in more detail below.

Figure 3 is a block diagram of a content engine receiver of Figure 1 such as content engine receiver 120. The content engine receiver 120 includes a controller 300, a memory 305, and a storage device 310, a network interface 380, and an interconnection mechanism 385. The interconnection mechanism 285 couples at least the controller 300, the memory 305, and the network interface 380, and may, in some embodiments, also couple the storage device 310 to the other elements. The storage

device includes a dataset 315 and content 320. The dataset 315 provides a listing of all objects that should be present in the content 320. Periodically, the content engine receiver 120 compares the dataset 315 to the content 320. If the content engine receiver 120 discovers that files are missing from the content 320 according to the dataset 315, the content engine receiver 120 generates a NACK 155 including a request for the missing files. The content engine receiver 120 sends the NACK 155 to the primary content engine sender 110. If after a waiting period, the content engine receiver 120 does not receive a response from the primary content engine sender 110, the content engine receiver 120 resends the NACK 155 but addresses it to the backup content engine sender 115. The NACK 155 sent to the backup content engine sender 115 activates failover processes in the CDN 100 as will be described below.